

McCALLUM THEATRE AUDIO-VIDEO

September 2025

The room has been described as "live (as in loud) and dry." RT-60 is <1 second. The auditorium ceiling is lath/plaster; orchestra level side wall surfaces are hardwood diffusers, while rear walls and the entire floor are carpeted.

SOUND REINFORCEMENT

The House Sound Console is located on the House Right side of the auditorium in an open box, immediately in front of the Mezzanine.

SIGNAL ROUTING/CONSOLES

The Sound System is configured with BSS Soundweb which provides distribution of signals to House Right, House Left speaker arrays, House Center cluster, and delayed 4 ½" ceiling speakers distributed in all Balcony and under-balcony areas. House program also feeds desired Lobby, Front of House, and selected backstage areas. A Stage Manager Audio Routing Panel routes Show Mic, Board Mix, Aux Program, and Paging to twelve (12) backstage zones.

Distributed 4 ½" speakers are mounted in the apron of the stage and provide front fill. A portable JBL Custom shop (UCF2521) system with Crown Power is optionally available for front fill.

HOUSE SOUND CONSOLE

The House Sound Console is a Soundcraft Vi7000 with 96 inputs.

Stagebox is stage left.

Normal output distribution is as follows:

LEFT MAIN OUT to House Left

RIGHT MAIN OUT to House Right

CENTER MAIN OUT to House Center

Matrix 28 Subwoofers

Matrix 29 House Program & HOH

Matrix 30 Front Fill

Matrix 31-32 Patch Panel

PORTABLE SOUND CONSOLES

(1) Mackie ONYX 1220

(1) Mackie 1402 VLZ4

(1) Midas M32

3 WAY ANALOG INPUT SPLIT

96 Jensen microphone splitters integrated in stage left panel provide transformer isolated splits of all main sound console inputs to the stage monitor console (split B and split C (second monitor console, etc.) There are ground lifts on B and C outputs.

HOUSE SPEAKER SYSTEMS

The House Speaker System consists of a Center Cluster and Subwoofer, located above the proscenium at House Center (in the first ceiling panel), and Left & Right Arrays located at the midpoint of the side walls flanking the proscenium. Center cluster is installed in half-space.

AMPLIFIERS

- (14) Crown I-Tech 5000
- (8) Crown I-Tech 9000(1) Crown I-Tech 12000
- (3) Crown 8-300N

SPEAKERS - CENTER CLUSTER

The Center Cluster consists of:

- (3) JBL 2450J (with Aquaplas dusted domes)/2382 high frequency assemblies. Each high frequency assembly is separately powered with a Crown I-Tech 4000 amplifier channel.
 - (2) JBL 2123H, 10" speakers. Each is powered separately by a Crown I-Tech 4000 channel.
 - (4) JBL 2225H, 15" speakers, each powered by a Crown I-Tech 4000 channel.
 - (5) JBL VTX S 28 subwoofers, powered by (3) Crown I-Tech 12000.
- Crossover frequencies are 27 Hz to 75 Hz for the subwoofer.

RIGHT & LEFT LINE ARRAYS

Identical right and left line arrays each consist of ten (10) JBL VTX-A12 powered with two (2) Crown I-Tech 5000s for highs, two Crown I-Tech 5000s for mids, and five (5) Crown I-Tech 9000s for lows. All three arrays are controlled by integral DSP in each I-Tech.

DELAY SPEAKERS

The delay speakers are ceiling mounted JBL 8110 4 ½" speakers. There are ten (10) delay zones, each with no more than 10 ms. variation within any zone. The feed to delay speakers is derived from the signal to the center cluster. Use of line arrays has minimized use of delay speakers. Soundweb controls Balcony, Mezzanine, and under-Balcony delay zones. All power amp inputs to delay speakers are accessible via the patch bay and can be used for effects.

STAGE MONITOR SYSTEM

- (1) - Soundcraft Vi7000 with 128 inputs, 64 outputs & 4 DSP cards
- (6) - JBL SP 212A Sound Power slant Monitors (12" x 1")
- (16) - JBL VRX915M Monitors (12" x 1.5")
- (2) - JBL TTM149 High Power (Custom Shop) (14" x 1")
- (2) - JBL CSR4718x-58 Sub Woofers
- (2) - Custom JBL tri-amp Side Fill Monitors (2 x 2225, 2 x 2123, 1 x 2445)
- (11) - Crown I-Tech 5000 Power Amplifiers
- (2) - Crown I-Tech 9000 Power Amplifiers
- (1) - Crown I-Tech 12000 Power Amplifiers

POWERED SPEAKERS

- (2) - JBL Powered EON-15-G2 (15")
- (6) - QSC K8.2
- (4) - Fostex SPA-11 amplified Speakers
- (6) - Galaxy PA5X140 (Hot Spot)

IN-EAR MONITORS

- (1) - Shure P9HW wired
- (2) - Shure P6HW
- (8) - Shure PSM1000 transmitters with (10) P10R receivers

WIRELESS MICROPHONES

SENNHEISER - 10 Channels Sennheiser EM6000 receivers

- (6) - SKM6000 NBK handheld transmitters; capsules:
 - (6) - Sennheiser MM 435
 - (6) - Neumann KK 204
 - (6) - Neumann KK 205
- (8) - SK6212 body transmitters (LEMO)
- (2) - SK6000 body transmitters (LEMO)
 - (10) - Sennheiser MKE-II lavalier LEMO black
 - (10) - Sennheiser MKE-II lavalier LEMO beige
 - (7) - Countryman E6
 - (2) 1/4in. Instrument to LEMO cable

SHURE - 20 Channels Shure AXIENT AD4Q receivers

- (12) - AD2 handheld transmitters; capsules:
 - (6) - KSM 11
 - (12) - KSM 8
 - (8) - Beta 58A
 - (12) - KSM 9
 - (2) - KSM 9 HS
 - (9) - SM58 — look of more elsewhere
 - (4) - Beta 57A
 - (10) - Beta 87C
 - (4) - Neumann KK105 (adapted)
- (20) - AD1 body transmitters (TA4F)
 - (3) - Beta WB98H/C
 - (9) - Countryman E6
 - (4) - Countryman E2
 - (10) - Sennheiser MKE-II lavalier TA4F beige
 - (16) - Sennheiser MKE-II lavalier TA4F black
 - (6) - 1/4in. Instrument TA4F cable
- (15) DPA 4066 Headset (red dot)
 - (11) - DPA Red dot / LEMO adapters
 - (16) - DPA Red dot / TA4F adapters

WIRED MICROPHONES

- (6) - AKG C-3000
- (4) - AKG C414B-ULS
- (2) - AKG C414B-XLS
- (5) - AKG-451 w/CK-1 capsule
- (6) - AKG-451B
- (2) - AKG D-112
- (2) - AKG CK33/GN50E PODIUM MICROPHONES
- (4) - Audio Technica AT-815R long shotgun
- (3) - Audio Technica AT-857AM podium microphone
- (6) - Audio Technica ATM33R
- (1) - Beyer M8000
- (2) - Beyer M500
- (4) - Beyer M88
- (6) - Beyer M160
- (2) - C-Ducer CSX/6 Stereo Piano Pickup
- (8) - Countryman E6 for Sennheiser
- (7) - Crown PCC-160
- (3) - Crown PZM-6S
- (18) - DPA 4061String Mics*
- (20) - DPA 4099*
- (4) - Electrovoice RE 16
- (4) - Electrovoice RE 20
- (6) - Neumann KM-84
- (8) - Neumann KM-184
- (2) - Neumann KMS-105
- (4) - Schoeps CMC 5-U (hypercardoid with collet cable)
- (2) - Sennheiser 431 with switch
- (16) - Sennheiser 421
- (2) - Sennheiser MKE-II lavalier microphones (XLR)
- (4) - Sennheiser 441
- (9) - Sennheiser E604
- (2) - Sennheiser E609S
- (6) - Sennheiser e904
- (2) - Shure KSM 8
- (2) - Shure KSM 9
- (2) - Shure SM 27
- (2) - Shure Beta 27
- (8) - Shure KSM 32
- (2) - Shure Beta 52A
- (2) - Shure 55SH II
- (16) - Shure Beta 56A
- (9) - Shure SM 57

- (2) -Shure G5790
- (8) - Shure Beta 57A
- (8) - Shure SM-58CNC capsules
- (11)- Shure SM 58
- (4) - Shure SM 58S
- (5) - Shure Beta 58
- (11) - Shure Beta 58A
- (12) - Shure SM 81
- (3) - Shure SM 85
- (1) - Shure SM 87A
- (4) - Shure Beta 87A
- (4) - Shure Beta 87C
- (1) - Shure VP88
- (2) - Shure Beta 91
- (2) - Shure Beta 91A
- (5) - Shure SM 98
- (8) - Shure Beta 98S
- (5) - Shure KSM 137
- (12) - Shure Beta 181/C
- (2) - Sony ECM-44B Lavalier

*Red dot will work with adapter for wireless

DIRECT BOXES

- (2) - Radial Engineering J48 direct box
- (2) - Radial Engineering J48 Stereo direct box
- (2) - Radial Engineering ProD2 stereo direct box
- (8) - Westcam (Jensen Transformer) Direct Box
- (2) - Avalon U5 Active Direct Box
- (15) - Countryman FET-85 Direct Box

ACCESSORIES

140 microphone stands plus assorted windscreens and adapters are available.

SMAART on PCs at both House and Monitor Consoles

HOUSE EFFECTS & PROCESSING

- (1) - Aphex 300 Compellor
 - (1) - dbx 160SL Limiter
 - (1) - SUMMIT LABS DCL 200 VOCAL COMPRESSOR
 - (1) - GRACE 801PREAMP (SET OF 8)
- ## **4. PLAYBACK/RECORD DEVICES**
- (2) - Tascam RW2000 CD Recorder
 - (4) - Denon DNC-635 CD/MP3 Player
- ## **5. PORTABLE PLAYBACK RACK (MONITOR SYSTEM or REMOTE)**
- (1) - Denon DN 635 Compact Disc Player

CABLES

We have sufficient microphone and speaker cable to do any normal show. All mic cables have three conductor XLR connectors. All speaker cables use Neutrix NL4 connectors, male on one end and female on the other. Cable accessories include:

- (6) - Wireworks MK-15 (15 pair) Snake Box and Pigtails
- () - Wireworks MK-15-25 multi-cable - 15 lines, 25'
- (1) - Wireworks MK-15-75 multi-cable - 15 lines, 75'
- (2) - Wireworks MK-6 (6 pair) Snake Box and Pigtails
- (4) - Wireworks MK-6-25 multi-cable - 6 lines, 25'
- (2) - Wireworks MK-6-75 multi-cable - 6 lines, 75'

COMMUNICATIONS SYSTEMS

STAGE MANAGER CONSOLE

The Stage Manager Master Console is a portable desk on a 15' cable connected at the DSR proscenium wall. It contains a Clear Com V12RDX4 MASTER STATION, Backstage paging, two (2) switchable color Video Monitors, and Cue Light controller.

INTERCOM

A digital Clear-Com Intercom system with 20 dedicated circuits that can be patched to any of 6 communication Power Lines by means of an XLR patch bay. System Includes:

- (1) - Clear-Com Eclipse HX-Delta 32 Matrix Master Station
- (2) - Clear-Com V12RDX4 Master Stations (SM & FOH Audio)
- (24) - Clear-Com HBP-2X Belt packs
- (20) - Clear-Com CC300 Head sets
- (4) - Clear-Com CC400-X4 Double Ear Headset
- (8) - Clear-Com Freespeak II Digital wireless belt packs.
- (3) - Clear-Com HelixNet HMS4S Master Stations

PAGE SYSTEM

Paging throughout all backstage and/or public areas of the theatre is made from the Stage Manager Console, through an RTS-802 Master Station. Each speaker in the backstage area has its own volume control. Paging overrides local volume control. A Stage Manager Routing Panel selects Show Mic, Board Mix, Aux Program, and Paging to 12 backstage zones. A portable Paging Microphone Box can be placed in several locations in the theater.

HEARING IMPAIRED SYSTEM

- (1) - ListenTech LT800-72 Transmitter (72 MHz)
- (50) - ListenTech LR400 72 receivers

ROAD CONSOLE MIX POSITION

Road audio mixing consoles are placed in the last three rows of the Orchestra, house right (seats must be removed.) 200 feet of snake is required, or in Box B opposite house mix.

VIDEO

There are color video monitors of stage in all Backstage Offices, Green Room, Stage Door, Star Dressing Room 3, down stage right, down stage left, and on the main level of the Lobby. There is an infrared sensitive camera that enables production staff to view the stage during a blackout. Digital Cable TV (Spectrum) is available in the theatre.

VIDEO CAMERAS

- (1) – Sony PTZ 900 located on Mezzanine rail, with networked remote controller.
- (1) - Ikegami ICD-4220 B/W camera,.0093fc. with Cosmocar auto iris zoom lens (8mm. to 48mm) permanently installed on Mezzanine rail.
- (1) - Panasonic WV-1854 Monochrome (infrared) Camera with auto iris lens (permanently installed at conductor position-orchestra pit.)
- (2) - Pelco LL-27 infrared light source with medium flood lamp, (permanently installed in 1st AP.)

VIDEO RECORDER

- (1) – Blackmagic Video Assist (.mov)

PORTABLE VIDEO MONITORS

- (2) - Panasonic WV-5410 - 12" monochrome Video Monitors
- (2) - Panasonic 19" Receivers

PROJECTION EQUIPMENT

- (1) – Barco UDX4K32 Projector (31K Lumens, 4K resolution)
- (1) – Barco SXGA+4.5-7.5:1 Lens
- (1) – Barco SXGA+2.6-4.1:1 Lens
- (1) – Barco HB TDL+ZOOM HD 1.39-1.8:1Lens
- (1) – Stumpfl VarioLock 64; Image Size - 15 'x 26'9"; Aspect Ratio -16:9
- (1) – Stumpfl Vario 21.3 x 12 Front screen
- (1) – Barco PDS-4K SDI Small Venue Presentation Switcher
- (1) – Barco PDS-902 3G Switcher
- (2) – MAC Book Pro laptops with QLAB (Version 5)

RADIO FREQUENCIES

The McCallum staff uses walkie-talkies for production, house and security

Frequencies are:

CH 1 469.825MHz PL 123.0 Hz *Security/FOH

CH 2 464.825MHz PL 123.0 Hz *main production channel

CH 3 461.9375MHz PL 123.0 Hz

CH 4 463.7000MHz PL 123.0 Hz

CH 5 468.7000MHz PL 123.0 Hz

Open RF Frequencies bands for Wireless mics:

471-476 mHz

482-488 mHz

500-506 mHz

530- 542 mHz